

(No Model.)

2 Sheets—Sheet 1.

A. J. CHAPEL.
CAR COUPLING DEVICE.

No. 600,192.

Patented Mar. 8, 1898.

FIG. 1.

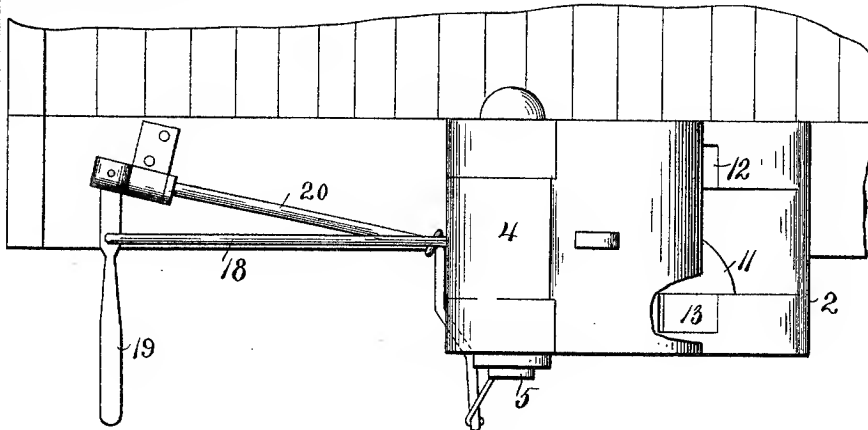


FIG. 2.

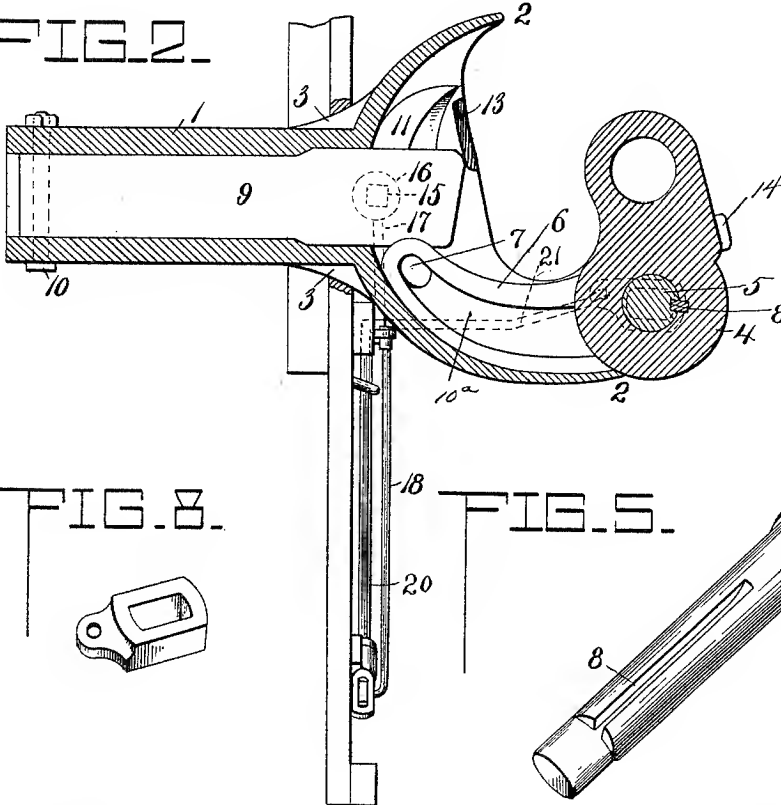


FIG. 3.

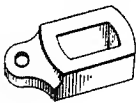
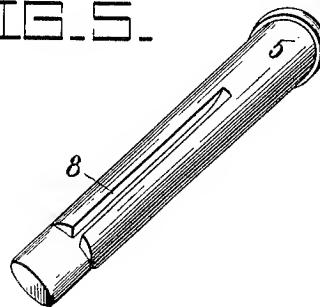


FIG. 4.



WITNESSES

W. E. Allen.

W. M. Payton

INVENTOR

Adanirom J. Chapel.
By John H. Hedges
Attorney

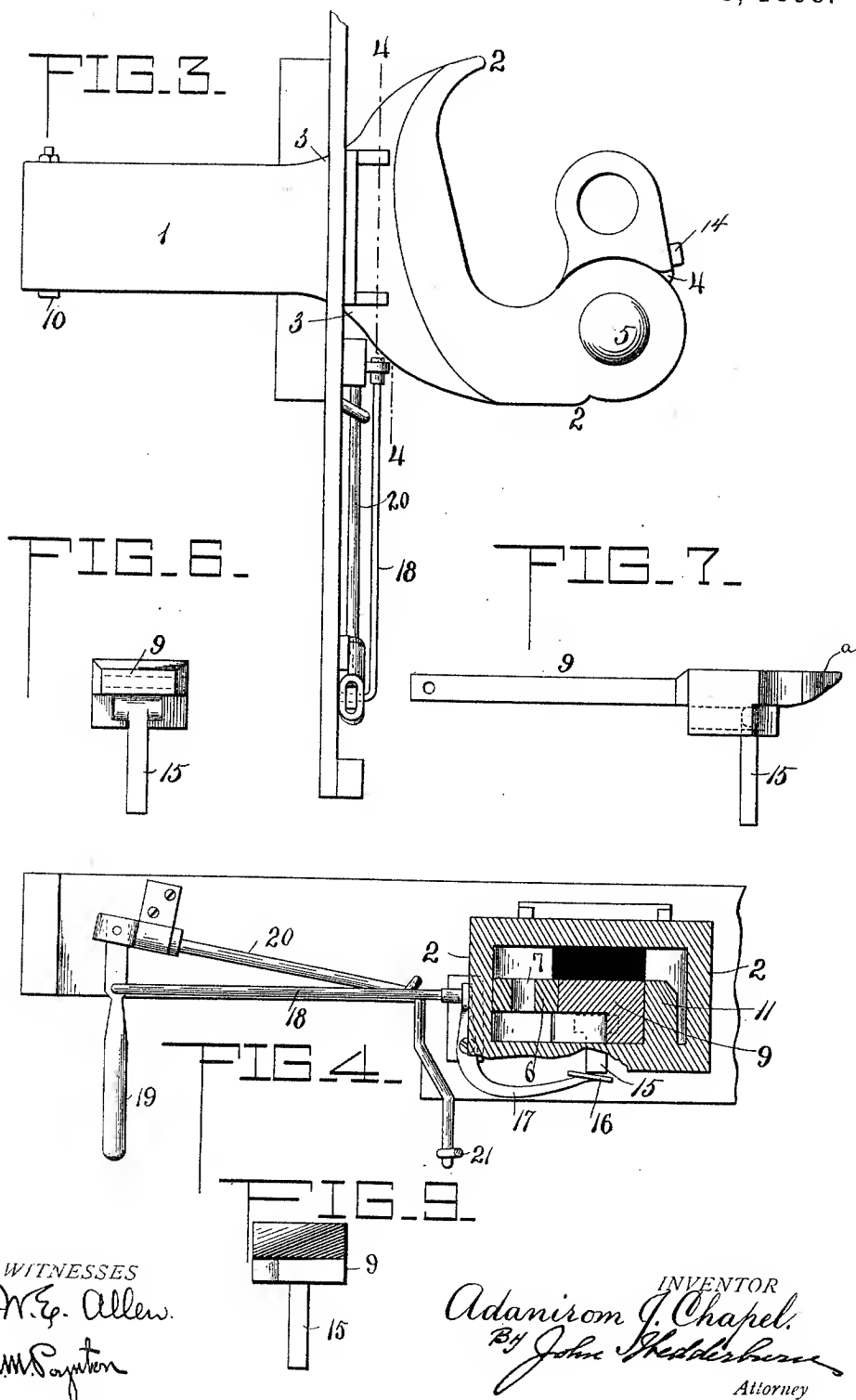
(No Model.)

2 Sheets—Sheet 2.

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No. 600,192.

Patented Mar. 8, 1898.



UNITED STATES PATENT OFFICE.

ADANIROM J. CHAPEL, OF ARKANSAS CITY, KANSAS.

CAR-COUPLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 600,192, dated March 8, 1898.

Application filed May 14, 1897. Serial No. 636,547. (No model.)

To all whom it may concern:

Be it known that I, ADANIROM J. CHAPEL, of Arkansas City, in the county of Cowley and State of Kansas, have invented certain new and useful Improvements in Car-Coupling Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in car-couplings, and particularly to that class which is known as the "Janney" type, the object of the same being to provide such a coupling with certain devices for locking the knuckles in positive engagement with each other, the operating mechanism being so arranged that it does not require the trainman to go between the cars, the operating-lever being located at one side of the car.

The invention also contemplates a construction by which the pivoted locking-bar of the device positively engages the knuckle and is thoroughly braced to take up the strain that necessarily comes upon the same.

The invention further contemplates a construction by which the lever that operates the locking-bar is also connected to the pivot or bearing pin of the knuckle to provide for opening said knuckle.

In the following specification I have entered into a detail description of the parts which constitute my invention, reference being had to the accompanying drawings and to numerals thereon, which designate the different parts, and what I consider to be the novel features of construction are specifically recited in the claims.

In the drawings forming part of this specification, Figure 1 is a front elevation showing the application of my improved car-coupling and operating mechanism therefor. Fig. 2 is a horizontal sectional view through the upper part of the coupling. Fig. 3 is a plan view of the coupling. Fig. 4 is a transverse sectional view through the draw-head on line 4 4, Fig. 3. Fig. 5 is a detail view of the pivot or bearing pin of the knuckle. Figs. 6 and 7 are detail views of the locking-bar and pin which projects downward therefrom. Fig. 8 is a detail view of the removable head

of the bearing-pin. Fig. 9 is a front elevation of the locking-bar.

Referring to the accompanying drawings by numerals, 1 designates the draw-bar, at the forward end of which is formed the draw-head of the coupling, comprising the forwardly-projecting members 2 2 and a chamber between them, said chamber extending rearward, providing a space in which is pivoted the locking-bar, hereinafter described. The draw-head at its intersection with the draw-bar has laterally-projecting webs 3 3, which are adapted to strengthen the coupling and reinforce the parts at this particular point. One of the forwardly-projecting members of the draw-head is shaped to receive the knuckle 4, which is connected thereto by a bearing-pin 5, and the arm 6 of the knuckle, which passes into the companion draw-head, is provided with a vertical opening 7, which adapts the knuckle to form a link in making a coupling with a car having a draw-head of the ordinary link-and-pin type, said arm being also cut away on its upper and lower sides to reduce the weight without unduly weakening the same. The bearing-pin 5 is provided with a vertical recess or groove 8, which engages a corresponding projection on the knuckle, for the purpose hereinafter specified.

9 designates a locking-bar which is located within the draw-head and is pivoted at its rear end upon a bolt or pin 10, extending transversely through said draw-bar, the said locking-bar when engaged bearing against a stop 11, formed in the draw-head. The forward end of the pivoted locking-bar is cut away on its under side at one corner, as shown in the drawings, to allow the link-arm 10^a of the knuckle to pass under said locking-bar and elevate the same automatically in making the coupling, the side of the locking-bar opposite the beveled corner thereof being recessed vertically at *a* to receive the end of the link-arm and form a bearing therefor. In front of the locking-bar the chamber is provided at its top and bottom with recesses 12 and 13, and in connection with these recesses the coupling-arm of the knuckle has vertical extensions 14 extending above and below the same, in order that when two couplings of

this construction are connected to each other the said extensions, engaging the end walls of the recesses 12 and 13 of the respective draw-heads, will prevent excessive vertical movement of the draw-heads upon each other. This construction and arrangement also provides against a draw-head which has become broken from its car being disconnected from the draw-head with which it is coupled by jolting or dropping out of the same. It may be here stated that serious accidents often happen by a coupling-head of the Janney type when broken from its car falling upon the track, and by providing the projections and recesses the parts are held positively in engagement with each other under all circumstances or until the locking-bar is operated to release the knuckle.

Extending downwardly from the locking-bar through the bottom of the draw-head is a pin 15, the lower end of which is engaged by a lever, hereinafter referred to. The manner of connecting the pin to the locking-bar is by forming the latter with depending side pieces having inward projections, T-shaped, to engage the flanges when the pin is inserted. This pin is engaged by a disk 16 on one member of the elbow-lever 17, pivoted adjoining the draw-head and connected at its other end to a rod 18, which extends to the operating-lever 19. This lever is seated within a rock-bar 20, supported in bearings attached to the cross-beam and having a depending end or crank portion which is connected by a rod 21 to the head of the bearing-pin near the periphery of the same. Instead of forming the bearing-pin with a head, as shown in Fig. 5, the sides are preferably flattened, and a disk having a corresponding recess, as represented in Fig. 8, is placed over the same and held in place by a pin, this construction being the preferred form.

From the foregoing description, in connection with the accompanying drawings, the construction and operation of my invention will be readily apparent, for by operating the lever from one side of the car the elbow-lever is first manipulated or drawn upon to elevate the locking-bar and release the knuckle and then shifted to one side to rock the bar or crank-shaft, which opens the knuckle or swings it into position for coupling. When the coupling is made, the long arm of the knuckle passes under the locking-bar beyond one side of the same, and said locking-bar, dropping by gravity, will hold the knuckle in locked engagement with the knuckle of the other draw-head, the lug or projection 11 forming a stop which acts to thoroughly

brace the parts, and the webs reinforce the connection between the draw-head and draw-bar.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination in a draw-head having a knuckle pivoted thereto, of a locking-bar pivoted at its rear end within the draw-head having depending lugs, inwardly-projecting flanges, a pin having a head at its upper end which engages the locking-bar, a stop within the draw-head at one side of the forward end of the pin, and means for operating the pin extending to a lever located to one side of the car, substantially as shown and for the purpose set forth.

2. The combination in a car-coupling having a knuckle provided with a link-arm, of a locking-bar pivoted at its rear end within the coupling and having a head at its forward end one corner of which is undercut to receive said link-arm of the knuckle therein while the opposite corner has a vertical groove, a stop within the draw-head for the locking-bar; together with a pin connected to the locking-bar and depending through the draw-head, an elbow-lever connected to the pin, and an operating-lever located at one side of the car and connected to the elbow-lever by a rod, substantially as shown and for the purpose set forth.

3. In a car-coupling of the Janney type, the combination with the knuckle, of a locking-bar located within the draw-head and pivoted at its rear end, the forward end of said locking-bar being adapted to engage the long arm of the knuckle, a pin depending from the locking-bar through the draw-head, and an elbow-lever connected with the end of the pin; together with a bearing-pin for the knuckle having a vertical recess, a lug on the knuckle projecting into its pivot-opening, a rod connected to the bearing-pin, and a rock-bar having an operating-handle located at one end of the car, said rock-bar being connected to the rod from the bearing-pin and said handle being also connected to the elbow-lever, the parts being constructed and organized, substantially as shown and for the purpose set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

ADANIROM J. CHAPEL.

Witnesses:

W. D. PARRY,
E. P. REYNOLDS.